

Amendments to the Claims

This listing of claims replaces all prior versions, and listings, of claims in the application.

Listing of Claims

1. (Currently amended) A process for supplying printing ink to and educating printing ink from a squeegee device of an inking system on a rotary printing press that has a squeegee blade carrier, provided with a longitudinally running trough, with squeegee blades that are adjustable on a form inking roller or on an anilox roller, which, together with the form inking roller and the trough provide an ink chamber, and has lines and first and second pumping devices powered by motors for supplying and educating the ink to and from the ink chamber,

comprising presetting pump operational parameters of the motors such that a flow rate ratio between the first pumping device and the second pumping device is fixed and on demand diverting from an ink feed line that feeds the ink from an ink tank to the squeegee device a portion of the feed ink and/or diverting from an ink return line that removes the ink from the squeegee device a portion of the return ink, the feed ink being diverted through a bypass line that departs from the feed line and leads directly to the ink tank, and the return ink being diverted through a bypass line that departs from the return line and connects to the feed line of the squeegee device.

2-3. (Canceled)

4. (Currently amended) The process in accordance with claim # 26, wherein the return ink is diverted through a bypass line that departs from the return line and connects to the feed line of the squeegee device.

5. (Previously presented) The process in accordance with claim 1, further comprising regulating flow with a throughflow regulating valve and/or a cutout valve provided in at least one of the feed line and the bypass line.

6. (Previously presented) The process in accordance with claim 5, further comprising monitoring with a sensor a quantity of the ink present in the squeegee device and signaling a closed loop control circuit that regulates the throughflow regulating valve such that the quantity of ink circulating in the squeegee device is maintained within specified limits.

7. (Previously presented) The process in accordance with claim 1, wherein the first and second pumping devices are each a chamber of a double diaphragm pump driven by a single drive shaft.

8. (Previously presented) The process in accordance with claim 7, wherein a first chamber is an ink feed chamber and a second chamber is an ink return chamber.

9. (Previously presented) The process in accordance with claim 8, wherein the ink feed chamber has a volumetric capacity that is equal to a volumetric capacity of the ink return chamber.

10. (Previously presented) The process in accordance with claim 8, wherein the ink feed chamber has a volumetric capacity that is greater than a volumetric capacity of the ink return chamber.

11. (Previously presented) The process in accordance with claim 8, wherein the ink return chamber has a volumetric capacity that is greater than a volumetric capacity of the ink feed chamber.

12. (Previously presented) The process in accordance with claim 1, wherein a volumetric flow rate of the return ink that is removed from the squeegee device is greater than a volumetric flow rate of the feed ink on a discharge side of the pumping device that pumps the feed ink.

13. (Previously presented) The process in accordance with claim 12, wherein the return ink that is removed from the squeegee device is enriched with air.

14. (Previously presented) The process in accordance with claim 1, wherein a volume of the feed ink that is diverted from the ink feed line is such that the flow rate ratio corresponds to a volume pumped by the pumping devices.

15. (Currently amended) The process in accordance with claim 4 1, wherein the return line leads to the ink tank.

16. (Previously presented) The process in accordance with claim 1, wherein the step of diverting the portion of the feed ink or the step of diverting the portion of the return ink is performed during the inking operation of the squeegee device.

17. (Currently amended) A device that delivers ink to and from a closed squeegee device of a rotary printing unit inking system, comprising:

a first and a second pumping device in which a flow rate ratio between the first pumping device and the second pumping device is fixed;

a first bypass line configured to controllably divert from an ink feed line that feeds the ink from an ink tank to the squeegee device a portion of the feed ink, the first bypass line departing from the ink feed line and leading directly to the ink tank; and

a second bypass line configured to controllably divert from an ink return line that removes the ink from the squeegee device a portion of the return ink, the second bypass line departing from the return line and connecting to the feed line of the squeegee device.

18. (Previously presented) The device according to claim 17, wherein the first bypass line departs from the ink feed line on a discharge side of the first pumping device and communicates the diverted feed ink to the ink tank that is in communication through an ink suction line with a suction side of the first pumping device.

19. (Previously presented) The device according to claim 17, wherein the second bypass line departs from the return line on a discharge side of the second pumping device and communicates the diverted return ink to the ink feed line at a location between the first bypass line and the squeegee device.

20. (Previously presented) The device according to claim 17, wherein the first pumping device is an ink feed chamber and the second pumping device is an ink return chamber of a double diaphragm pump.

21. (Previously presented) The device according to claim 20, wherein the ink feed chamber has a volumetric capacity that is equal to or greater than a volumetric capacity of the ink return chamber.

22. (Previously presented) The device according to claim 17, wherein a volume of the feed ink that is diverted from the ink feed line is such that the flow rate ratio corresponds to a volume pumped by the pumping devices.

23. (Previously presented) A device that delivers ink to and from a closed squeegee device of a rotary printing unit inking system, comprising:

a double diaphragm pump including an ink feed chamber and an ink return chamber in which a flow rate ratio between the ink feed chamber and the ink return chamber is fixed;

a first bypass line configured to controllably divert from an ink feed line that feeds the ink to the squeegee device a portion of the feed ink, the first bypass line departing from the ink feed line on a discharge side of the ink feed chamber and communicating the diverted feed ink without supplemental pumping thereof to an ink tank that is in communication through an ink suction line with a suction side of the ink feed chamber; and

a second bypass line configured to controllably divert from an ink return line that removes the ink from the squeegee

device a portion of the return ink, the second bypass line departing from the return line on a discharge side of the ink return chamber and communicating the diverted return ink to the ink feed line at a location between the first bypass line and the squeegee device.

24. (Previously presented) The device according to claim 23, further comprising a throughflow regulating valve and/or a cutout valve provided in at least one of the ink feed line, the first bypass line, and the second bypass line.

25. (Previously presented) The device according to claim 24, further comprising a sensor that monitors a quantity of the ink present in the squeegee device and signals a control circuit that regulates the throughflow regulating valve such that the quantity of ink in the squeegee device is maintained within a specified limit.

26. (New) A process for supplying printing ink to and educating printing ink from a squeegee device of an inking system on a rotary printing press that has a squeegee blade carrier, provided with a longitudinally running trough, with squeegee blades that are adjustable on a form inking roller or on an anilox roller, which, together with the form inking roller and the trough provide an ink chamber, and has lines and first and second

pumping devices powered by motors for supplying and educating the ink to and from the ink chamber, comprising:

presetting pump operational parameters of the motors such that a flow rate ratio between the first pumping device and the second pumping device is fixed and on demand diverting from an ink feed line that feeds the ink from an ink tank to the squeegee device a portion of the feed ink and/or diverting from an ink return line that removes the ink from the squeegee device a portion of the return ink, the feed ink being diverted through a bypass line that departs from the feed line and leads directly to the ink tank; and

regulating flow with a throughflow regulating valve provided in the bypass line.